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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/542,394

07/13/2005

Katsufusa Fujita

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06/27/2007

WOOD, PHILLIPS, KATZ, CLARK & MORTIMER
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CHICAGO, IL 60661

EXAMINER

NGUYEN, TRAN N

ART UNIT

PAPER NUMBER

2834

MAIL DATE

DELIVERY MODE

06/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/542,394

Applicant(s)

FUJITA, KATSUFUSA

Examiner

Tran N. Nguyen

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 02 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED OFFICE ACTION

Previous Final Rejection Withdrawn

Applicant's request to withdraw the 12/27/07 Final Office Action was considered by Mr. Darren Schuberg, Supervisor of Art Unit 2834. The following is the results:

- (a) since the Final Office Action of 12/27/06 was withdrawn, **the Office Action as of 12/27/07 has been changed from Final to Non-Final status;**
- (b) the Advisory Action of 5/15/07 also has been withdrawn; and,
- (c) **the applicant's amendment, filed on 5/2/07, has been entered and the amended claims, as of 5/2/07, are being prosecuted on the merit herein.**

Specification Objection Withdrawn

According to the Applicant's argument, filed on 5/2/07, that

"In the Applicant's original application, in the second full paragraph on page 5 thereof, it is stated: Incidentally, although the shape at a time when the caulking projection is viewed from the side can be made, for example, a V shape, a U shape, or an inverted trapezoid, the shape is not fixed.

Applicant respectfully submits that the caulking projection configuration shown in Applicant's Fig. 2 is **approximately** that of a "V", a "U", and "an inverted trapezoid". The shape shown approximates each of the stated configurations. The claim language does **not** state that the shape must be **precisely** a "V", or a "U", or a "trapezoid".

Therefore, the previous Specification Objection in the non-final Office Action of 12/27/06 is hereby withdrawn, and the disclosure as well as the claims, the recited caulking projection is broadly read as an **approximately** of a "V", a "U", or "an inverted trapezoid" shape.

Withdrawn Claim Rejections - 35 USC § 112

The previous rejection under first paragraph of 35 U.S.C. 112, in the non-final Office Action of 12/27/06, is hereby withdrawn (see the previous section regarding the specification objection withdrawn for detail).

Response to Arguments

Applicant's arguments filed on 5/02/07 have been fully considered but they are not persuasive.

The applicant argues that *“Bertocchi discloses only a fixed relationship between the core pieces around the corresponding rotation axis. Nowhere does Bertocchi expressly state the desirability or ability, and nowhere in the disclosure is there an inherent capability, to have this relative movement around a rotation axis. In fact, the structure as disclosed is not capable of allowing relative movement between core pieces around the rotation axis.”*

The applicant further argues that *“the Examiner refers to Figs. 2 and 4 for the alleged disclosure therein of circumferential gaps that are alleged to allow relative movement between the core pieces around the rotation axis. However, the perspective from which Fig. 4 of Bertocchi is taken is not stated or clear. If the spacing shown is in a radial direction, it has no bearing on whether or not the core pieces can be rotated relative to each other in a circumferential direction.”*

In response to these arguments, the applicant's attention is drawn to Bertocchi's specification col. 3 lines 24-35, as directly quoted below:

“Advantageously the cavities 6 are through cavities, as shown in FIG. 4.

They could however also be shaped as a recessed female element, for housing the projecting portion of the clips 3. **The cavities 6 can be dimensioned to engage the clips 3 with a certain clearance (as in FIG. 4) or with greater contact, depending on the clamping requirements for the laminations and/or on the need to form spiraled articles. The cavities 6 are also advantageously provided in positions**

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substantially adjacent to the clips 3, so that when a compensated article is to be formed, the laminations 2 being stacked are rotated one relative to the other only by the angle B (FIG. 2) between a clip 3 and a cavity 6, and not by the angle C (FIG. 2) between one clip and the next, which happens if using known laminations. In this manner the overall time for stamping and stacking the article is considerably reduced. The cavities 6 can also be positioned and/or be in such a number as to enable the projecting part, suitably increased in height, to engage two underlying laminations, or penetrate two cavities in these laminations (see schematic FIGS. 4A and 4B)."

Based on this disclosure, it is understood that **Bertocchi** does disclose that advantageously the caulking through holes (6) being shaped as with an clearance, i.e., as shown in **Bertocchi's** Fig 4, the holes (6) being formed with a longer dimension than that of the caulking projections (3), so that the holes (6) can accommodate the respective projections (3) and enable the adjacent upper and lower laminated plates (2) being rotated one relative to the other by a predetermined amount of angle B, as shown in , **Bertocchi's** Figs 1 and 4, wherein predetermined amount of angle B is a relative circumferential dimension (**Bertocchi's** col. 3 lines 24-35 and Figs 1 and 4).

Thus, the applicant's allegations that are false statements and the arguments are not persuasive.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claims 1, 3-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bertocchi (US 5,923,112)** in view of **JP-2002-136015**.

Bertocchi discloses skew shape variable laminated iron core (figs 2, 4) in which plural on core pieces (2) are laminated through caulking projections (3) and caulking holes (6), in which the caulking projections are fitted, characterized in that in the iron core pieces except a lowermost layer, the caulking projections (3) and the caulking holes (6) are respectively formed at different positions of a same radius from a rotation center at skewing of the iron core pieces (figs 2, 4), and the caulking hole is longer in a circumferential direction than the caulking projection fitted in the caulking hole (fig 4), and when the caulking projection of the iron core piece of an upper layer is fitted in the caulking hole of the iron core piece, a gap is formed in the circumferential direction of each of the caulking holes (fig 4). As shown in Bertocchi's Figs 4A-4B, wherein the caulking hole (6) is formed to pass through the plural laminated iron core pieces (2, 2A), and the caulking projection fitted in the caulking hole formed to pass through reaches to a lower part position of the caulking hole formed to pass through.

Also, **Bertocchi's** fig 4 shows the caulking projections are configured with a shape that is an approximately V-shaped or an approximately inverted-trapezoidal-shaped configure with top portion being positioned approximately at a center of the configuration, and the holes can be provided in positions substantially adjacent to the projections.

Regarding the newly amended limitations: *the caulking projection of the iron core piece of the upper layer is movable circumferentially within the caulking hole of the iron core piece of the lower layer to thereby allow the laminated iron core pieces of the upper and lower layers to*

move relative to each other around the rotation center, **Bertocchi** (col. 3 lines 24-35) does disclose that advantageously the caulking through holes (6) being shaped as with an clearance, i.e., being shaped longer than the caulking projections (3), as shown in **Bertocchi's** Fig 4, so that the caulking holes (6) can accommodate the respective caulking projections (3) and enable the adjacent upper and lower laminated plates (2) being rotated one relative to the other by a predetermined amount of angle B, as determined by relative circumferential dimension, (**Bertocchi's** col. 3 lines 24-35 and Fig 4).

Hence, **Bertocchi** *substantially discloses the claimed invention, except for the limitations that the caulking hole has an arc-shape.*

JP-2002-136015, however, teaches a motor's magnetic core is formed by laminating and caulk a number of thin magnetic steel sheets having clamp holes and projections, wherein the holes is formed in to an arc shape (fig 1) concentric with the axial axis, and the skewed formed in the core by laminating and caulking between the projections and the arc-shape holes, as a result the lamination process is facilitated.

Along with the **JP2002136015** essential teaching of forming the clamp holes as an arc-shape that concentric with the rotational axis of the core, **Bertocchi** specifically provides an important disclosure that the holes can be advantageously dimensioned to engage the projections with a predetermined clearance for slidably rotating the adjacent laminated plates of the upper and lower layers (**Bertocchi's** col 3, lines 24-35 and Figs 1, 4). Also, **Bertocchi** discloses that the holes can be shaped so that to enable the projections suitably increased in height, to engage two underlying laminations by penetrating two holes in these laminations (FIGS. 4A and 4B).

Those skilled in the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this instant case, an artisan would have the necessary mechanical knowledge and skills in the art to realize that since the Bertocchi already discloses that the shape/dimension of the holes is configured so that the adjacent laminated plates would enable moving *relatively to each other*, *it would have been obvious to configure the hole as an arc-shaped, taught by JP-2002-136015*, for smoothly

rotatable movement of the adjacent upper and lower laminated plates relatively to the other by a predetermined circumferential dimension. In other words, those skilled in the art would understand that it would have been obvious to an artisan to combine the **JP2002136015** essential teaching of forming the clamp holes as an arc-shape that concentric with the rotational axis of the core with the Bertocchi's disclosure that the shape and size of the holes can be changed with respect to the corresponding projections for facilitating slidably movement between caulking holes and projections thereof.

Thus, it would have been obvious to one skilled in the art with the necessary mechanical skills to modify the Bertocchi's laminated core plates with an arc-shaped configuration, as taught by **JP2002136015**. Doing so would advantageously facilitate the stacking process of the laminated core plates, particularly for a skewed laminated core, and because of the arc-shape holes that concentric with the rotational axis of the core, the slidably rotation of the adjacent upper and lower laminated plates would be smoothly enhanced. Also, it has been held that a change in size or shape is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955) (emphasis added).

Regarding the limitations of the caulking holes include a first caulking hole formed in every second iron core piece of the iron core pieces in a lamination direction, and a second caulking hole formed at a position different from the first caulking hole and to pass through the plural laminated iron core pieces, and the caulking projections include a first caulking projection reaching to a lower part position of the first caulking hole, and a second caulking projection reaching to a lower part position of the second caulking hole.

Bertocchi discloses in a various embodiment (as shown in Figs 4A-B), the caulking holes (6) may be formed to pass through the plural laminated iron core pieces (2, 2A) and the caulking projections, and the caulking projection fitted in the caulking hole formed to pass through reaches to a lower part position of the caulking hole formed to pass through for the purpose of enabling the caulking projecting suitably increased in height, to engage two underlying laminations, or penetrate two caulking holes in these laminations for firm abutment and preventing laminated core plate being disposition.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the core by incorporating both the first and the second types of caulking holes as

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well as the first and the second type of caulking projections. Doing so would ensure that the caulking projecting suitably increased in height; to engage two underlying laminations, or penetrate two caulking holes in these laminations for firm abutment and preventing laminated core plate being disposition.

Regarding the method of manufacturing the skewed laminated core, as claimed, particularly the process involving punching out the core plates by a die apparatus, Bertocchi does disclose a manufacture process including the step of stamping, i.e., punching, the laminated plates via a die apparatus (col 3-4). Those skilled in the art would understand that since **Bertocchi** and **JP2002136015**, in combined, disclose detailed structure of the skew shaped laminated core from each individual laminated core plate's caulking holes and projections to how the entire core is constructed by caulking the laminated core plates.

Thus, it would have been obvious to one skilled in the art, with necessary and ordinary mechanical skills, at the time the invention was made to develop a process of manufacturing the disclosed core because Bertocchi does both disclose a manufacture process for the core, and specifically disclose detailed structure of the skewed laminated core; additionally, JP2002136015 regarding the arc-shape of the caulking hole. Hence, the combination of the two references disclose detailed structure of the skew shaped laminated core from each individual laminated core plate's caulking holes and projections to how the entire core is constructed by caulking the laminated core plates, and method of manufacturing a device whose structure has been disclosed in detailed would be a counter part of the device itself.

Conclusion

As stated at the beginning of this Office Action, the applicant's request to withdraw the 12/27/07 Final Office Action was granted Mr. Darren Schuberg, Supervisor of Art Unit 2834. Therefore, **the Office Action of 12/27/06 was changed to Non-Final status**, and accordingly the applicant's **amendment, filed on 5/2/07, has been entered** and the amended claims, as of 5/2/07, are again being prosecuted on the merit herein.

Thus, according to MPEP § 706.07(a), and as shown by the record, the applicant did amend Claims 1 and 3-12, as well as the cancellation of Claim 2, by the amendment, filed on 5/02/07, that is after the second Non-Final Office Action of 12/27/07.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N. Nguyen whose telephone number is 571-272-2030. The examiner can normally be reached on 7:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. (Note: Use this Central Fax number 571-273-8300 for all official response.)

Do **not** use the Examiner's RightFax number without informing the Examiner first because, according to the USPTO policy, any document being sent via RightFax is treated as unofficial response and will not be officially dated until it is routed to the Central Fax.

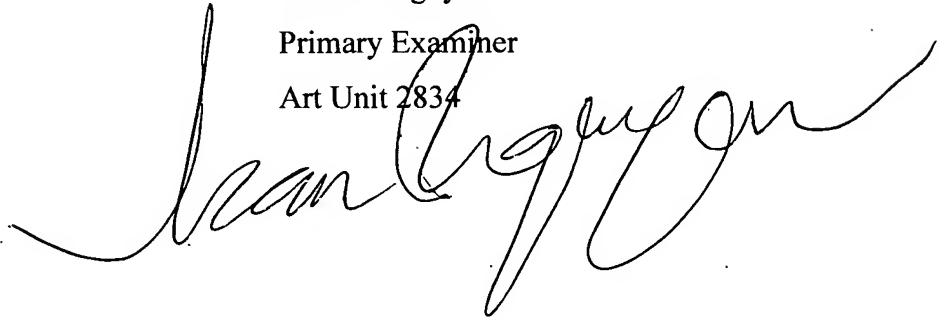
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Tran N. Nguyen

Primary Examiner

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A handwritten signature in black ink, appearing to read 'Tran N. Nguyen', is written over the typed name and title.